IN THE CLAIMS:

1. (canceled)

2. (previously presented) An isolated nucleic acid molecule encoding a polypeptide having diacylglycerol acyltransferase activity, wherein the isolated nucleic acid molecule comprises a sequence according to SEQ ID NO: 1 or SEQ ID NO: 3.

3. (canceled)

4. (previously presented) A vector for transformation of plant cells, wherein said vector comprises a nucleic acid sequence encoding a polypeptide having diacylglycerol acyltransferase activity, wherein the nucleic acid sequence comprises SEQ ID NO: 1 or SEQ ID NO: 3.

5. (canceled).

6. (previously presented) The vector according to claim 4, wherein said nucleic acid sequence is present in said vector in a sense orientation.

7. (canceled).

8. (previously presented) Plasmid pDGATcDNA having accession number ATCC PTA-989.

9. (previously presented) Plasmid pDGATgene having accession number ATCC PTA-988.

10. (canceled)

11. (currently amended) A plant seed having a genome, wherein said genome comprises ~~a seed having~~ an introduced nucleotide sequence of SEQ ID NO: 1 or SEQ ID NO: 3 encoding a polypeptide ~~SEQ ID NO: 2~~ having diacylglycerol acyltransferase activity~~, wherein the sequence of the polypeptide comprises~~ activity, wherein ~~SEQ ID NO: 2~~.

12. (previously presented) A genetically transformed plant, wherein the genome of the plant has been transformed by the vector according to claim 4.

13. (currently amended) A genetically transformed plant seed, wherein the genome of the plant seed has been transformed by ~~a vector comprising~~means for ~~a nucleic acid sequence~~ encoding a polypeptide having diacylglycerol acyltransferase activity~~, wherein the sequence of the polypeptide comprises SEQ ID NO: 2.~~.

14. (previously presented) The plant seed of Claim 11, wherein the plant seed exhibits an altered seed oil content compared to an average of a statistically-significant number of seeds of plants of the same genotype grown in identical conditions, but without the introduced nucleotide sequence.

15. (previously presented) The plant seed of Claim 11, wherein the plant seed exhibits an altered diacylglycerol content in its seed oil compared to an average of a statistically-significant number of seeds of plants of the same genotype grown in identical conditions, but without the introduced nucleotide sequence.

16. (previously presented) The plant seed of Claim 11, wherein the plant seed exhibits a seed oil with an altered fatty acyl composition compared to an average of a statistically-significant number of seeds of a plant of the same genotype grown in identical conditions, but without the introduced nucleotide sequence.

17. (canceled)

18. (previously presented) The plant seed of Claim 11, wherein the plant seed exhibits an enhanced biomass compared to an average of a statistically-significant number of seeds of plants of the same genotype grown in identical conditions, but without the introduced nucleotide sequence.

19-22. (canceled)

23. (currently amended) A method of changing the oil content, acyl composition or diacylglycerol/triacylglycerol ratio of the seed oil of plant seeds, said method comprising:
introducing a nucleic acid construct comprising a nucleic acid sequence encoding a polypeptide having diacylglycerol acyltransferase activity into a plant transformation vector;
transforming the genome of a plant or plant seed with said plant transformation vector;
expressing the nucleic acid sequence;
growing the plant or plant seed; and
~~extracting the oil from the plant seed;~~
selecting the transformed plant or plant seed having the changed oil content, acyl composition or diacylglycerol/triacylglycerol ratio as compared to an average of a statistically-significant number of seeds of plants of the same genotype grown in identical conditions, but without the introduced nucleotide sequence;
wherein said polypeptide comprises SEQ ID NO: 2.

24. (previously presented) The isolated nucleic acid molecule of claim 2, wherein the nucleic acid sequence is SEQ ID NO: 1.

25. (previously presented) The isolated nucleic acid molecule of claim 2, wherein the nucleic acid sequence is SEQ ID NO: 3.

26. (previously presented) The vector of claim 4, wherein the nucleic acid sequence is SEQ ID NO: 1.

27. (previously presented) The vector of claim 4, wherein the nucleic acid sequence is SEQ ID NO: 3.

28. (currently amended) The plant seed of claim ~~10~~ 13, wherein the introduced nucleotide sequence is SEQ ID NO: 1 or SEQ ID NO: 3.

29. (currently amended) The plant seed of claim 11, wherein the introduced nucleotide sequence is SEQ ID NO: 1 or SEQ ID NO: 3.

30. (canceled)

31. (currently amended) The method according to claim 23, wherein the nucleic acid sequence is SEQ ID NO: 1 or SEQ ID NO: 3.

32-33. (canceled).

34. (previously presented) The plant seed of claim 11, wherein the plant seed is selected from the group consisting of consisting of Arabidopsis thaliana, *Borago* spp., Canola, *Ricinus* spp., *Theobroma* spp., *Zea* spp., *Gossypium* spp, *Crambe* spp., *Cuphea* spp., *Linum* spp., *Lesquerella* spp., *Limnanthes* spp., Linola, *Tropaeolum* spp., *Oenothera* spp., *Olea* spp., *Elaeis* spp., *Arachis* spp., rapeseed, *Carthamus* spp., *Glycine* spp., *Soja* spp., *Helianthus* spp., *Nicotiana* spp., *Vernonia* spp., *Triticum* spp., *Hordeum* spp., *Oryza* spp., *Avena* spp., *Sorghum* spp., *Secale* spp., Brassicaceae, and other members of the plant family *Gramineae*.

35. (canceled)

36. (currently amended) A plant cell comprising:

a genome; and

means for encoding a polypeptide having diacylglycerol acyltransferase activity integrated in the genome.

37. (currently amended) The plant cell according to claim 36, wherein the means for encoding the polypeptide having diacylglycerol acyltransferase activity comprises SEQ ID NO: 1 or SEQ ID NO: 3.

38. (canceled)

39. (previously presented) A genetically transformed plant seed, wherein the genome of the plant seed has been transformed by the vector of claim 4.

40. (new) A plant, plant seed or progeny thereof having the nucleic acid construct comprising the nucleic acid sequence encoding the polypeptide having diacylglycerol acyltransferase activity incorporated in the genome of the plant, plant seed or progeny thereof produced by the method according to claim 23.